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I

**FIELD WORK AMONG THE BIRDS AND MAMMALS OF
THE NORTHERN COAST OF CALIFORNIA IN 1921**

BY JOSEPH MAILLIARD

Curator, Department of Ornithology and Mammalogy

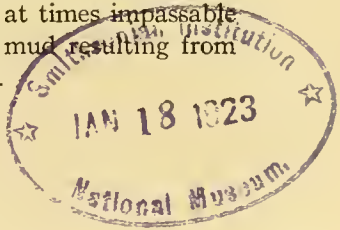
Continuing the plan of investigating those parts of California of which the birds and smaller mammals are least known, Del Norte County was selected as the principal scene for the field work of the department of Ornithology and Mammalogy of the California Academy of Sciences in the spring of 1921.

On account of the utilization of the major portion of the departmental funds in the financing of the Academy expedition to the Gulf of California, the size of the field party for the northwest coast work was limited to two members, Mr. Chase Littlejohn, assistant curator, and the writer.

It was decided to maintain for a few weeks during migrations practically continuous observation in a given spot, and the village of Requa, Del Norte County (California), was selected as the principal station for this work. This little settlement is situated on the north bank of the Klamath River, about one-half mile above its mouth, and is perched upon a steep hillside overlooking the river at a ferry which has long been maintained there.

Although it would have been better to have arrived upon the scene in time to note the arrivals of the earlier north-bound migrants, it was not until April 19 that a start could be made.

Arcata was reached by rail that evening, and the next day the journey of something over 70 miles was made in a large and powerful auto stage, over roads that seemed at times impassable by reason of the deep ruts and treacherous mud resulting from heavy traffic during a long continued rainfall.



Most of the second day's journey was through dense forest, broken only here and there by clearings where the timber had been removed, or by sparsely occurring natural openings.

All the bird life noted on this day's journey was in these openings. Not a single bird of any sort was seen in the forest during the long hours of travel—often at a pace that was barely more than a crawl—on this gloomy, overcast day, while but few were seen anywhere. Western Robins, California Brewer Blackbirds, Northwestern Redwings, and Mendocino Song Sparrows constituted the bulk of those noted.

The forest along this coast is practically untouched over a large territory, being fortunately, as yet, inaccessible for profitable lumbering purposes. A great deal of it consists of magnificent redwood growth, and much of it is carpeted with large areas of ferns and mosses in almost tropical luxuriance, while great masses of rhododendron when in full bloom produce wonderful color effects as an offset to the somberness of the heavy shadows.

At times where the road skirted the shore, wave-washed, rocky islets would come into view, and all those that were large enough to rise above the reach of the battering seas had upon them flocks of Western Gulls. Several of these islets were so close to shore that the birds could be seen sitting on their nests. Some of these rocks appeared to be so precipitous as to be inaccessible to man, but probably could be landed upon by expert climbers at opportune moments, and in the vicinity of Trinidad several have been visited. As land birds only were to be considered on this field trip, no attempt was made by us to visit any of these rocks.

The party arrived at Requa at 4 P. M., April 20, having been about eight hours making the trip of 72 miles from Arcata. Mr. J. B. Mortsof, Indian agent in charge of the Hoopa Indian Agency and whose territory includes Requa, had very kindly given the Academy permission to use the roomy agency cottage here. The only other occupant of the cottage at the time was Mr. T. B. McKinley, deputy agent, who, until his transfer to another department, combined his simple housekeeping arrangements with those of the field party.

All land traffic between Eureka, the county seat of Humboldt County, and Crescent City, county seat of Del Norte County, passes this way over the only north and south road so far constructed west of Shasta Valley.

The hills directly back of the settlement have a good deal of open pasture land, and there is an untimbered flat half or three-quarters of a mile wide on the south bank of the river, but, with exception of a small area of partially cleared bottom land and an occasional spot bare of trees, all else in sight is coniferous forest, composed largely of fine redwood growth. For the most part this forest is dark, gloomy, and practically impenetrable, except where indian or other trails exist.

The open land is largely in demand for dairying purposes, the milk produced thereon being hauled to a cheese factory at Requa. On the very limited alluvial bottom lands the timber has been destroyed to admit of crop tillage, some grain being grown for hay or silage crops.

Roads extend up each side of the Klamath River for a few miles only, and direct communication with settlements farther up the river is by canoe, small power boats, or trail.

The rainfall in this part of the state is very heavy, and the dry season is not only very short, but also more or less damp, with much fog and consequent absence of sunshine. Snow rarely falls in any quantity here, and frost is seldom severe so near the ocean at this latitude.

Dr. Walter K. Fisher (Condor, Vol. IV, 1902, pp. 111-114) has described this part of the redwood coast belt and touched upon its zonal and faunal peculiarities. After going into some detail concerning the difficulties of defining the life zones of the northern California coastal redwood strip, this author summarizes the situation as follows:

"At present it seems that the Northwest Coast Boreal District, in California occupies only a very narrow and restricted belt in the form of *dilute* Canadian, south to the vicinity of Cape Mendocino. This belt comprises only the densest forests of redwood, Sitka spruce, western hemlock, Pacific cedar and Lawson cypress. All the other country including an open belt along the coast, the more open river valleys, mutilated districts, as well as the mountains immediately to the east of the redwoods belonged to the Humid Transition. The Humid Transition still farther east merges into the Arid Transition or belt of the yellow and sugar pines."

Dr. Fisher thinks that the reason that most resident birds of this humid coast belt are darker than those of the interior is not so much the result of heavier seasonal rainfall and greater amount

of moisture present, but rather the effect of the restricted amount of total sunlight resulting from a greater number of cloudy or foggy days than has the interior of the country. He cites the case of the higher interior mountains with a heavy seasonal rainfall, but with little fog or cloudiness between the winter storms and with vastly more sunshine in summer than has the Humid Coast Belt, where the resident birds are of lighter coloration, as proof of his explanation.

Some doubt concerning the soundness of this hypothesis arises, however plausible it may seem, when, in the case of the Blue-fronted Jay (*Cyanocitta stelleri frontalis*), specimens from the coastal region in Sonoma County, California, are found to be practically indistinguishable from many taken in the Sierras (Condor, Vol. X, 1908, pp. 133-134).

Several days were lost through the non-arrival of much of the equipment, part of which had been started in advance by parcel post so as to insure its being there, but all necessary articles finally arrived.

The weather at first was most unpromising, but field work was carried on between showers so far as possible, since the birds were very chary about appearing in the open in such a moisture-laden atmosphere.

A trip was made around the neighborhood in the endeavor to locate a cabin in which to camp and be in the midst of the wild life of the woods, but nothing was found sufficiently promising to make up for the advantages of the room, light, and dryness of the quarters in the Indian Agency cottage in town, while also more speedy means of reaching the best fields for observation in the vicinity were found.

Bird life is not well represented in this region, and birds are most numerous, per unit of area, in the more open lands. In the forest sometimes for miles at a time no bird was seen. Those species which might inhabit the woods are noticeably shy in this forest country and without apparent reason, unless it be that their spirits are depressed by the humidity and the gloom which so largely prevails. During the stay of 38 days in Del Norte County it rained, more or less, on 15 days, and was foggy, overcast, or partially cloudy on 16 more, such days making the forest anything but a cheerful place. This shyness in the birds was particularly noticeable in the case of the Varied Thrush, whose notes were

identified upon our arrival at Requa, but of which no individual was actually seen for over three weeks. It was again exhibited in the case of the Northern Wren-tits, which as a rule are rather inquisitive little bundles of activity, busily bustling about the bushes, often apparently scolding away at the tops of their small voices and frequently coming boldly into view if their curiosity is aroused by a squeaking noise made by an observer; yet in Del Norte County, while quite a number were heard, only one or two were actually seen in spite of strenuous efforts to obtain specimens.

The most numerous birds in the settlement, and in the more isolated bushes on the unforested hillside back of it, were the resident Nuttall Sparrow, associated with quite a number of the Golden-crowned Sparrow, then in course of migration to its northern breeding grounds. This latter species was noted as late as May 10.

Western Robins were commonly met with in this vicinity, and could almost be called abundant, but the gloomy weather seemed to affect their spirits, for they were not as songful as one might have expected.

Flocks of Band-tailed Pigeons, sometimes numbering a couple of hundred individuals, were constantly on the watch for freshly sown grain fields, always ready to pick up the seed that remained uncovered. These grain fields were little more than small patches of ground wrested from the forest, and in this moist climate were plowed and planted late in the season. The farmers claim that the pigeons do considerable damage, and are not disposed to believe that only surface grain is taken. They certainly showed a good deal of energy in the matter of shooting birds to save their crops, especially when they knew that the game warden was called elsewhere. They would lie in wait in hollow stumps or in brush piles and whang away when a flock gathered. It was rather singular that no dead pigeons were ever seen in the fields after such shooting. The farmers had a right to protect their crops from damage though not to use the birds for food, but the birds were very toothsome, and—?

It is very evident that the Band-tailed Pigeon has a long breeding season in this locality, judging from the reports of reliable persons who found nests in the summer time, while birds were found by us to be breeding at least as early as May 6. On that date Mr. Littlejohn came across a broken fresh egg of a Band-tailed Pigeon on a mossy bank upon a hillside. To make the

identity doubly sure, sticking to the egg shell was a breast feather of the parent. It seemed as if some pitch from a coniferous tree might have adhered to the bird's breast while it was perching on a limb and had stuck the feather to the egg when the bird next sat upon it. Or possibly, a drop of balsam had fallen on the egg when it was temporarily unprotected, with the same result, and the bird, probably startled by something, had left the nest suddenly, carrying the egg with it far enough to clear the edge of the nest and let it fall to the ground. The ovaries of birds taken by us near the end of May showed eggs ready to be laid, and two men who live in Requa during the summertime told stories of finding nests, in which the egg had been laid, in the alder trees in June. Whether this means a second brood or not is a matter of conjecture.

On April 23 many Tree Swallows were found flying about the tall, ghost-like stumps of dead trees in the partly cleared bottom-land north of the town, and these birds remained there during the nesting season. On this same date a few Barn Swallows were seen as well, while the Violet-green Swallow was noted on April 26. The Cliff Swallow did not appear until May 7, when it suddenly became abundant around an old cannery in the town.

As one of the objects of the trip was to note dates of arrival of migrants, a careful watch was duly maintained for such.

On April 23 the writer had a very close view of a flycatcher which seemed without doubt to be the Traill. The bird could not be secured because it kept tenaciously to some willows overhanging a swift stream, often not over 8 or 10 yards away. No other individual of this species was seen until May 28, when, for three days, it was quite abundant at Requa, apparently disappearing completely after May 29, as none was noted thereafter.

Woodpeckers were remarkably scarce for a country so full of timber, and apparently so favorable for the support of that family (Picidæ). An occasional Harris Woodpecker was seen or heard. The Gairdner Woodpecker was rarely met with and but one Lewis Woodpecker was seen. A few Northwestern Flickers were evidently breeding at Requa, and their piercing cry was often heard, the sound magnified by the surrounding forest. There were plenty of soft-wooded trees for these birds to breed in, but the comparative gloominess and dampness did not seem to attract the woodpeckers to any great extent. Perhaps there was so much territory available to them that they had not yet increased in numbers sufficiently to occupy it all.

The Mendocino Song Sparrow was quite abundant in places that were especially wet, where either bunches of sedge or low bushes or brambles gave adequate protection, and, at the time of our arrival, this species was already nesting. A nest containing three eggs was found on April 24, and it was left to see whether more eggs would be laid, as no bird was sitting on it. Three days later it was again visited but no more eggs had meantime been laid, and the set turned out to be too far incubated to save. In the next fortnight two more nests were found, but the eggs of only one could be blown. There must have been quite a number of them in the thick blackberry brambles along the small swampy streams, where they were safe—from human hands, at least. One of these song sparrows was seen carrying nest material as late as May 17.

Soon after the party's arrival at Requa the notes of a hermit thrush were heard, and an earnest effort was made to identify the birds. They were extremely shy, however, and it was May 2 before one was taken, and May 6 another. A fleeting glimpse of several others was obtained but no proof was found of its breeding there. The two specimens secured are nearer to the Alaska Hermit Thrush than to anything else.

While the Oregon Jay has long been known to inhabit the Humboldt Bay district in very limited numbers, it was hoped that it might be found fairly numerous farther north, but at Requa only four were noted. The first one was seen on April 30, when, toward the end of an almost fruitless morning, Mr. Littlejohn shot the first chipmunk so far seen on the trip. The sound of his shot startled a heretofore hidden Oregon Jay out of the tree above his head. It flew to another tree near by that had a mass of fire-killed branches quite low down. The writer stalked the jay and shot it, but his shot frightened out a Dusky Horned Owl, which fell to the second barrel, sailing rather slowly to the ground. It was followed for a distance by another Oregon Jay. The first was the only specimen of this jay secured, one other being shot later on, but lost in heavy brush.

There was something very familiar about the sight of the California Brewer Blackbird (*Euphagus cyanocephalus minusculus* Grinnell)* picking up horse hairs for nest lining in the roads near the dairymen's dwellings, or walking about among the cows, but

*Condor, July, 1920, p. 153.

there were only a few pair of these birds in the neighborhood. The most northerly coast record heretofore of this bird has been under its old name, from Hoopa Valley, Humboldt County.

The California Linnet, also a very familiar bird in most of this state, appeared on April 27, when a single male was seen, but by the end of the first week in May it was common in suitable places near the village. This species has not been before recorded from the coast north of Humboldt Bay.

The only examples of the genus *Junco* seen at Requa were secured on April 24 and May 7, the first one from among a flock of Golden-crowned Sparrows. This specimen, a female, is apparently an Oregon Junco, but the pink marking on the sides and flanks is heavier than is often seen. The second is another female, with markings so light that one hardly knows where to place it, but it is provisionally placed with *oregonus*.

The Green-backed Goldfinch was first noted on April 26, when two were seen, but it never became very numerous. The Willow Goldfinch, on the contrary, first noted on April 28, soon increased in numbers and later was quite plentiful.

The Golden Pileolated Warbler was noted at Requa on April 22, but probably it was there even earlier. It was common in all suitable localities.

On May 1 it was raining hard all morning. Soon after breakfast an alder tree near the house was seen to be alive with warblers, apparently the result of a small migratory wave. The species represented were Townsend—seen for the first time—Lutescent, and Golden Pileolated. This tree seemed to be a favorite rendezvous, for individuals kept coming and going all the morning. The Townsend Warbler did not remain to breed, however. Some Yellow Warblers, either the Alaskan or Western, were noted by Littlejohn at this time.

On May 4 the Russet-backed Thrush arrived on the scene. While its short call and single whistle note were heard every day, none of the birds was actually heard to sing until May 11, when several were in full song at daybreak. This thrush was very wild at first and although living in the blackberry vines and bushes among the houses of the village, it was seldom seen. Afterwards—probably after the young were hatched—it became very tame and numbers might be seen sitting on top of fences, absolutely undisturbed by passers-by.

Across the river from the village of Requa was quite an extensive flat, above all but the highest floods, which seemed as if it might be a possible breeding place for some form of marsh sparrow (*Passerculus*), although none had been recorded from here. On May 7 this flat was explored and three males of this genus, most closely approaching the form described by Dr. L. B. Bishop as the Dwarf Marsh Sparrow (*Passerculus sandwichensis brooksi*), were secured. Some other males were secured later on, and the conclusion reached that this species was breeding there, while it was also found at Crescent City, undoubtedly nesting, extending the breeding range of this subspecies and bringing it down to the actual seashore, yet not in saltwater marshes. All this was brought out in a recent article (*Condor*, Vol. XXIII, 1921, p. 164).

On May 18 a Western House Wren was taken which proved to be the only one seen during the stay in Del Norte County. On that date also a pair of American Ospreys were seen carrying nesting material into the top of a tall stump in a partially cleared field on the north bank of the Klamath, not far from Requa.

Efforts were made to ascertain whether the Varied Thrush was breeding in the vicinity of Requa, but no success was met with until May 13, when one was secured. These birds were apparently very scarce, and were so shy that it was extremely difficult to find any. Finally, by patient camping in the darkest sort of places where brush was thick under the trees, several were secured, one of which proved to be a nesting female. No nests, however, were discovered, while the character of those portions of the forest which the Varied Thrush selects for nest locations made the search for nests so unpromising of results that efforts in this line were considered unprofitable.

Constant watch was maintained for the Western Winter Wren, which it was thought would be met with in numbers, but it was not until May 30 that any were noted, and only one or two individuals even then. Some of the Indians at Requa asserted that the unusually heavy winter of 1914, with deep snow and intense cold, killed off these friendly little birds, and this was corroborated by Mr. Zwerline, a dairyman living three miles from Requa, to whom many thanks are due for numerous courtesies shown to our party. These little wrens were described as frequenting the barns and sheds in a most sociable manner each winter until this extraordinarily heavy one of 1914, during which numbers of them, and

of other small birds were found lying dead upon the deep snow. Since then this species has been very rarely seen there.

The party was absent from Requa from May 20 to 27 and on its return it was found that some new species had arrived. The most interesting of these was the Traill Flycatcher which was noted on May 28, on which day several were seen or heard. On May 29 quite a number were seen and several secured for positive identification, but not one was observed after this date. The locality was not one adapted to the needs of this species, and it was rather surprising to find it migrating thus along the coast, especially as there was no adjacent territory toward the north that seemed attractive to it. Possibly those birds noted were moving easterly up the Klamath River to a more suitable locality farther inland, but they had apparently chosen a peculiar line of flight to reach their destination.

A pair of Arkansas Kingbirds was seen on May 7 on the flat across the river from Requa and another was seen at the same place on June 2. This locality seemed to be rather out of the way for this species of flycatcher also.

One day in Requa, Deputy Game Warden Prescott mentioned a rare kind of bird he had seen shortly before, while he was at Patrick's Creek, Del Norte County, California, 32 miles northeast of Crescent City on the road to Medford, Oregon. It was impossible to identify the species from his description, in which he stated that these birds had arrived in a flock, were doing much damage in the garden, and had never been seen in that locality before. It seemed advisable to make an investigation of this matter, especially as a visit to this region, intermediate as it was between the Humid Coast Belt and the dryer interior, would be worth while under any circumstances.

The journey in the auto stage from Requa to Crescent City took $3\frac{1}{2}$ hours for the 24 miles on account of the fearful conditions of the muddy roads, which were next to impassable. The visit to Patrick's Creek extended from May 19 to 26, and the time there was passed in collecting birds, trapping rodents, and listing the species of birds met with. Nothing very interesting was found there. The country is mostly covered by brush, with timber running up the deeper cañons of the tributaries of Smith River, but forest fires have swept the country so frequently that much of the brush is short and bird life is rather scarce. What does exist

there is intermediate in character between Coast and Sierran forms, as might be expected. The birds that were the main object of the trip had moved on, but remains were found of some that had been shot while destroying freshly sprouting garden seeds, and these were sufficiently well preserved to identify the stranger as nothing more than the common winter visitant to so much of California, the Golden-crowned Sparrow.

Although Patrick's Creek Hotel, where the party stayed, is only some 18 to 20 miles from the coast in a straight line, the crested jay found there proved to be very much like the Blue-fronted Jay (*Cyanocitta stelleri frontalis*) of the Sierras.

This locality was such a poor one, so far as animal life was concerned, that the return to Requa was made as soon as it became evident that the surrounding hills offered no more inducement to the collector than did the cañon in which the inn is situated, and Crescent City was reached on the evening of May 26.

It was intended to stay over here for a short time to investigate the bird life in the vicinity, and early the next morning a start in this work was made. South of the town a pair of Dwarf Marsh Sparrows was located, and the male secured for identification, but the female disappeared. No others were discovered on that side of town and a rising wind soon developed into such a gale that all work had to be abandoned and shelter sought indoors. This gale brought on such a storm of rain the next day that nothing could be done, and as a slide threatened to block the road to Requa at any moment it was deemed best to return there while it was still possible, and Requa was reached again on May 27.

No mention has been made so far of the mammals taken during this field work. It may be some time before opportunity presents itself for the proper identification of those secured, but a few words concerning them will be in order. For good reasons, operations were confined to the orders of Rodentia and Insectivora (shrews and moles).

Traps for these animals were kept constantly set, and the locality changed every few days, or as soon as the traps failed to attract. The dampness and accompanying vegetation in this part of the state made it preeminently a place in which to look for members of the shrew family, and especial efforts were made to secure such, with fair results. A fine series of the large Pacific Shrew (*Sorex pacificus*) was obtained, together with specimens of several

other genera, including moles and shrew moles. Many mice, of several species, were obtained, and gophers of at least two species.

It was not, however, a good year for small mammals, and some species that might well have been expected to appear were not found in the traps. A teamster hauling wood stated that while last year every pile of cord wood that he hauled had numbers of different kinds of rats or mice under it, which were plainly visible when the last sticks were removed from the ground, there were practically none this season. One jumping mouse (*Zapus*) was taken in a trap, but all that was found of it, after some animal had used it as a basis for a nocturnal repast, was its long tail with a bit of fur attached.

It was rather astonishing to discover that the resident Indians were unaware of the existence of some of the shrews that were obtained in our traps.

These Indians had names for all the animals except these smaller shrews, but, when the attempt was made to set down these names in English it was disheartening to be met with the statement made by educated Indians that there was no possible way to express the necessary sounds with the English alphabet.

That the Western Bushy-tailed Wood Rat (*Neotoma cinerea occidentalis*) is often to be found on the ocean shore in California, is questionable, but it certainly occurs at times at Requa. Persons connected with the Klamath River Packing Company's salmon cannery close to the mouth of the Klamath River related a story of having recently killed one with a stick inside the cannery, which was corroborated by Mr. Geo. R. Field, manager of the company and member of the California Academy of Sciences. The Indians also stated that this species was occasionally found at sea level in the vicinity of Requa, but none seemed to be here during the stay of the Academy field party.

The Point Reyes Mountain Beaver (*Aplodontia phæa*) was present at Requa in small colonies, but the traps used by the party were too light to hold these powerful little animals, and none was captured. Evidences of their work were noticed, and Mr. Field reported that they had repeatedly diverted for their own use a small spring-fed stream which was led to tanks for the use of the cannery, so that eventually matters had to be arranged to prevent such interference with the flow of water.

By the end of May there hardly seemed to be sufficient prospect of any further important migratory bird movement to warrant a longer stay at Requa, and the return to Eureka was made on June 2. A set of eggs of the Snowy Plover (*Aegialitis nivosa*) was secured on the shore of Humboldt Bay on June 3, and arrangements were made with Mr. C. I. Clay, and Deputy Game Warden Lowe, for a trip to Myer's Ranch, on the South Fork of Eel River, some 60 miles south of Eureka, to look for the Rose-breasted Grosbeak (*Zamelodia ludoviciana*) which has been reported from there, and thanks are due to these two gentlemen for their kind assistance in this matter. This trip was made in Mr. Lowe's car on the afternoon of June 4, the party remaining at Myer's Ranch for 24 hours. At the edge of a cultivated flat, included in a long, V-shaped bend of the river, were several cherry trees heavily loaded with ripe fruit, and birds were constantly flying to them from the redwood forest near by, but no Rose-breasted Grosbeaks were seen. Mr. Grant Myer without doubt is familiar with this bird, and he stated that several had been seen a couple of weeks previous to this visit, but none had been seen since then. This was corroborated by a neighbor on whose property the cherry trees were situated. These birds are reported to come into the neighborhood when the peaches and apricots are ripe, that is, in July, but in 1921 a frost killed these fruits and none of the birds was expected. In fact, later reports are to the effect that none was seen. This species must evidently breed in some locality not far away, and probably in a small isolated colony that has never increased. Mr. Clay stated at a later interview that he had come across a person who claimed to know where this breeding ground was, and hopes to be able to visit it next season in company with his informant.

While at Myer's Ranch, the field party found the Monterey Hermit Thrush evidently breeding there, as an adult bird was seen feeding its young. A couple of specimens were secured for identification. This is the most northerly record for this sub-species, so far as known. This record, as well as that of Dwarf Marsh Sparrow, was published in *The Condor*, Vol. XXIII, 1921, p. 164.

The day following the visit to Myer's Ranch, the spring field work was brought to a close, and the party returned to San Francisco.

At the end of this paper is a list of birds noted at Requa during the spring work of the field party, giving the dates of arrival of

many of the summer migrants. Many of these dates are very close to the actual ones, while others are, of course, approximate in cases where the species might have been present several days before it was met with.

AUTUMN FIELD WORK (1921)

In the autumn season of the last two years (1919 and 1920) a party from the Department of Ornithology was placed in the field with the principal object of observing the fall migration of fox sparrows from the north. In those two seasons the ground selected for this work was on the Inner Coast Range, in Lake and Mendocino counties, California. This year (1921) it was decided to make such observations close to or on the actual coast of northwestern California, and to revisit some of the territory covered in the work of the preceding spring. It is the intention of this department to divide the state into longitudinal strips, as it were, and to examine one strip each fall, so as to ascertain, so far as possible, the southerly route taken by the different species of fox sparrows. The greatest element of difficulty in this work is that of discovering favorable spots for such observation.

Another reason for selecting the northwest coast for the field work this fall was the desire to investigate further the status of the crested jay (*Cyanocitta stelleri* subsp.) in that part of California. This jay has been placed with the Coast Jay (*Cyanocitta stelleri carbonacea* Grinnell) for many years, but suspicion was aroused in the mind of the writer some years ago as to the correctness of this diagnosis. This region had been visited the previous spring with the idea in view of definitely settling the matter. Specimens in breeding plumage of this jay were obtained at several places on or near the coast; but the fact that it was very difficult to determine at just what date such specimens could correctly be compared with others from the San Francisco Bay region, from which the Coast Jay was described, and where the climate is drier and more moderate with brighter winter days, made it seem most desirable to obtain specimens in the new fall plumage, when there would be no question of fading or wear. It was found that as late as the third week in September very few of even the adult jays at Requa had attained a state of full plumage, and the young were greatly behind the young of even date in the San Francisco Bay region.

The field party consisted of the departmental curator and Mr. Chester C. Lamb, as assistant. Mr. Lamb's car was the means of transportation, and a suitable camp outfit was part of the equipment.

Requa was decided upon as the most northerly objective and it was reached on September 15. Camp was made about three miles from town near the Zwerline dairy, to the owners of which many thanks are due for numerous courtesies and assistance.

It had been an unusually dry summer in Del Norte County and the springs were mere trickles of water, but it commenced to rain on September 17, and kept it up for three days, making it impossible to secure much in the way of specimens, either of birds or mammals.

The indians stated that most of the birds were high up on the mountain ranges feeding on the berries then ripe. There certainly were not many down on the lowland. However, a number of specimens of the desired jay were obtained, principally immature birds, in sufficiently good plumage to indicate that instead of being intermediate between the Coast Jay (*Cyanocitta stelleri carbonacea*) of the San Francisco Bay region and the Steller Jay (*Cyanocitta stelleri stelleri*) of British Columbia and southern Alaska, this northwest coast bird is much closer to the Blue-fronted Jay (*Cyanocitta stelleri frontalis*) of the interior and more arid regions of this state. In fact there is good reason to believe that this jay is intermediate *between the two latter forms*, instead of the two former, as the writer has endeavored to make clear in another paper (Condor, Vol. XXIV, 1922, pp. 127-133).

No fox sparrows were noted in the vicinity of Requa, although there was good cover and feed near by. Apparently at this time, September 15-21, none had worked in there, and it seemed to be a fact that this locality was not on a regular line of migration. The date was not too early, for in other seasons northern birds had been found in the interior farther south at this time, and fox sparrows have been noted in Golden Gate Park, San Francisco, much earlier in September.

There were a good many Northern Wren-tits in a thick growth of wild lilac near camp, but none could be induced to show itself, much as specimens in fresh feather were desired. Mention was made of the scarcity of the Varied Thrush in the breeding season,

and the same condition prevailed in the fall. Only one individual was noted during the week's stay at Requa.

No fox sparrows having appeared, and the time being so short in which to intercept any migratory flight of this genus, it was decided to move farther south and endeavor to find a locality better suited for observation in this line. The return toward Eureka, Humboldt County, was made on September 21, a sharp lookout being kept in all brush-covered localities for indications of fox sparrows, but not a single individual was seen during the trip.

After a consultation with Mr. C. I. Clay of Eureka, who kindly assisted the work of the party in many ways, and whose knowledge of roads and localities in Humboldt County is very complete, the vicinity of Kneeland Postoffice was selected as a promising locality in which to look for fox sparrows. Mr. Clay not only led the way to Kneeland, but gave several demonstrations along the road through the fir forest of how to capture the Long-tailed Tree Mouse (*Phenacomys longicaudus*). In fact, if it had not been for this practical demonstration of just how to proceed in the matter, it is doubtful if any mice would have been secured by the field party. At least in part of the spring time, the larger nests contain one female with (usually) two or three young, while the male has a small nest of his own, probably often in another tree nearby, as no nests of males were discovered in the small sapling fir trees in which the females' nests were found. In each case there were branches interlocking from adjacent trees that could furnish means of communication with the family nest. But few nests discovered by us were occupied, and these only in forest that had been extensively thinned out by wood cutting. Careful watch was kept for the nests of this mouse in every locality visited by us, but the only ones discovered were on the road between Eureka and Kneeland Postoffice. Dr. Walter P. Taylor has given such a full account of this mouse, its habits, etc., (Proc. Cal. Acad. Sci, Series 4, Vol. V, 1915) that it is not advisable to go into further details of it here, interesting though it be.

Kneeland Postoffice was reached September 22, and a camp site selected at the southeasterly end of Kneeland Prairie, where the open rolling land on top of the ridge ends, and the heads of several deep, timbered cañons converge. These cañons are in different watersheds, draining into Mad River on the north and into a tributary of Eel River on the south. There was fair cover for fox

sparrows near camp, and a low gap extending from one watershed into the other made it appear to be a good locality in which to look for a line of migratory flight.

This camp was at an elevation of about 2000 feet, and some 15 miles southeasterly from Eureka, in a direct line. Fox sparrows were noted in small numbers from September 23 to 30, and a few secured each day but one, which was rainy and foggy. The birds mainly appeared to be drifting along rather than moving in an active flight except upon September 26, when Lamb came across indications of a considerable migratory movement. Those specimens secured at Kneeland appear to be closest to the Sooty Fox Sparrow (*Passerella iliaca fuliginosa*), although not typical. A separate paper has been published on this subject (Condor, Vol. XXIV, No. 2, March-April, 1922, pp. 48-53), which gives a more detailed account of the observations on this genus.

A good series of the crested jay was secured at Kneeland, which is sufficiently near the sea coast to allow of the inclusion of specimens taken there among those from the actual coast line.

There were a few grouse (*Dendragopus*) here, but they were extremely wary and none was secured for absolute identification.

Several marsh sparrows were found on the open prairie, some specimens of which were taken, among which was a good example of the Dwarf Marsh Sparrow, and two specimens of the Savannah Sparrow (*Passerculus sandwichensis savanna*), as identified by Mr. H. S. Swarth.

While the Northern Wren-tit was heard and not seen at Requa, the opposite was the case at Kneeland, for this bird was not heard to any great extent, but many were seen. In fact, during the time when members of the party would be watching in the thick brush for fox sparrows, there would be one or two of the wren-tits constantly fussing about him, often interfering considerably with the main object of the vigil.

The Northern Spotted Owl was heard here every night, as it had been also at Requa, but it took good care to remain out of sight.

The number of fox sparrows seemed to decrease toward the end of September, and as there did not appear to be much chance of any very active migratory movement among them at so late a date, it was decided to move camp.

Mr. Clay suggested a visit to a locality in the southwestern corner of Humboldt County where an extensive area was covered with a thick growth of a white-flowered thorn bush, which might be an attractive place for fox sparrows. This suggestion was followed, and we started from Kneeland Prairie on September 30 with the thorn country as our objective, but with the idea of making several stops along the road.

Capetown, about 25 miles southwest of Eureka, near the mouth of Bear River, was the first stop, and a temporary camp was established in the gravelly bed of the river about half a mile above its mouth. The main object in stopping here was to obtain some of the Mendocino Meadow Mouse (*Microtus californicus constrictus* Bailey), of which Capetown is the type locality. In Stephens' California Mammals, published in 1906, the type locality of this subspecies is given as 'Mendocino County,' whereas it should be 'Cape Mendocino, [Humboldt County], California,' and the geographic distribution 'coast region near Cape Mendocino,' as given in the original description (N. Amer. Fauna, 17, June, 1900, pp. 36, 37), with mention of its abundance at 'Capetown, just back of Cape Mendocino.'

Unfortunately, this was an "off year" for this species in its type locality. Two nights of trapping only produced one specimen, in spite of the fact that Mr. Joseph Dixon of the Museum of Vertebrate Zoology, Berkeley, California, describes them as being so numerous there that there was no necessity for baiting traps. He visited his unbaited traps three times in one day, and found as many specimens of this meadow mouse in them as he could possibly take care of. They were so plentiful in one particular spot that they were caught as they accidentally ran over the triggers of the traps. On the occasion of our visit, not a single specimen was captured in this formerly so thickly populated area, which Mr. Dixon verbally described in such a way as to be readily recognized.

In fact, it seemed to be an off season for small mammals wherever we set traps, for the returns were meager compared with the efforts made.

While most of the country surrounding the camp at Capetown was open pasture land, bleak and bare, there was a very steep hillside just across the little river from the camp that was covered with a dense growth of hazel and salmonberry bushes, which seemed to be a favorite locality for fox sparrows, as many were

noted there and some secured. Some jays were heard, but none taken.

On account of the want of success in obtaining jays and small mammals, and because of threatening winds and fog, only two nights were passed here.

On October 2, the southern journey was renewed along the coast and camp made at an attractive-looking spot on Mattole River, five miles south of Petrolia (Humboldt County). This spot was only about six miles from the ocean, but well protected from the sea breezes by a high intervening ridge. A good series of jays and some fox sparrows were taken here as a sample of what the locality produced.

The principal matter of interest at this camp, however, was the number of owls in the vicinity. As many as five species were heard at once, or at least within a few minutes, in the evening. These were the American Barn Owl (*Aluco pratincola*), Northern Spotted Owl (*Strix occidentalis caurina*), California Screech Owl (*Otus asio bendirei*), Dusky Horned Owl (*Bubo virginianus saturatus*), and the Coast Pygmy Owl (*Glaucidium gnoma grinnelli*), all of which were also heard at intervals throughout the night. Attempts were made to call up the Northern Spotted and the Coast Pygmy owls to "spot" them with a light, but while they would come very close, it was impossible to discern them in the heavy foliage of the surrounding trees, and none was seen in the daytime.

There being no particular object in remaining at this camp longer than to obtain examples of the jays and fox sparrows here, the next move was made to the thorn country. From the description of it obtained on the road, a good camping ground, with an abandoned cabin in case of a storm, was found about two miles northwest of what is down on the current maps of Humboldt County as "Thorn," but which at present is merely a ranch house. This camp was also on Mattole River, three or four miles from the southern boundary of Humboldt County, on the road from Garberville to Shelter Cove and six or seven miles from the ocean shore, protected by a ridge, as was the last camping place.

A great deal of the country around here was covered by a heavy growth of thorn bush (*Ceanothus incanus*), among which were clumps of "wild coffee" (*Rhamnus californicus*) or "cascara sagrada" as it is often called, and "wild lilac" (*Ceanothus thyrsiflorus*).

The fruit or seeds of these plants form an attractive variety of diet for some species of birds, and the number of birds present showed keen appreciation of the opportunities for feasting that such a combination offered.

The species most numerous in the thorn bush were Sooty Fox Sparrow (*Passerella iliaca fuliginosa*), California Purple Finch (*Carpodacus purpureus californicus*), Nuttall Sparrow (*Zonotrichia leucophrys nuttalli*), and Golden-crowned Sparrow (*Zonotrichia coronata*). The Sonoma Thrasher (*Toxostoma redivivum sonomæ*) was found here and several specimens taken. So far this is the most northern coast record for this genus, though it occurs at a more northern latitude in the interior of the state. Three specimens were secured of which only one had recovered completely from the autumnal moult. This bird seems darker than typical *sonomæ*, but this may be entirely due to the freshness of the plumage, as compared with that of other specimens examined.

In this thorn country fox sparrows were very numerous, especially in some limited areas. While it was possible to bring one or two or even six or eight of these birds into view in almost any part of the thorn-bush territory by arousing their curiosity with a squeaking sound, there were certain spots where they were even more numerous. One of these was a small narrow cañon with water at the bottom, more shaded and with the ground damper than the surrounding area, and here it was easy to cause 20 to 30 birds at a time to drop their ordinary activities in the seclusion of the brush and to come out into full view, often within a few feet of the observer.

As the fox sparrow is naturally of a shy and retiring disposition this exhibition of curiosity overcoming fear was extremely interesting, and considerable time was passed observing the actions of the individuals, and in the endeavor to pick out any that might be of a different race from those that had yet been met with on this trip. So far as it was possible to judge under these conditions, about all of them appeared to be referable to the race of Sooty Fox Sparrow, of which a large series had already been secured, so that, in spite of such an opportunity, only a few specimens were taken. Among these only one was referable to another form, which was the Townsend Fox Sparrow (*Passerella iliaca townsendi*). As this matter has been gone into rather fully in *The Condor* recently (loc. cit.) it is hardly worth while to repeat it here.

The Band-tailed Pigeon was well represented here in the more wooded areas, numbers of them finding the different seeds and berries much to their taste. Crested jays, on the contrary, were scarce, only one of these being secured here, although others were heard in the distance.

During our stay at this camp the weather became threatening, and if caught here by a severe storm, we would have been delayed by the subsequent condition of the mountain roads beyond the time limit set for our return to headquarters. Hence the camp was regretfully broken on October 7, and the return trip to San Francisco begun in earnest. Soon after the highway was reached, however, a mishap occurred to the car which necessitated its remaining at the nearest garage, which happened to be near Cummings Postoffice, Mendocino County, for several days for repairs.

A good series of jays was collected there, but nothing of great interest was developed in the vicinity, unless the total absence of fox sparrows from the bush hillsides might be called a matter of interest, though rather a negative one. Sonoma Thrashers were heard in the brush, but only one was secured. As this locality may be considered as belonging to the Inner Coast Range and is only some 20 miles from Covelo, from which place this species has been recorded, and but little farther north, it might naturally be looked for here.

Trapping for small mammals had been conducted through this field trip, but the results had been small, as was the case during the spring field work. Some nights not a trap would be touched. Other than a poor representation of white-footed mice (*Peromyscus*) no other small mammals were secured except two shrews (*Sorex*) and one meadow mouse (*Microtus*).

Yet the owl family was well represented at every stopping place. It was very unfortunate that none was secured to find out what food was being eaten by the various species of owls identified by their nightly calls.

In the localities visited by the Academy field parties during the past three years rodents have been for the most part scarce, with no apparent reason. Possibly some epidemic has thinned them out. It is a well recognized fact that these animals are seldom abundant for any great length of time in any one locality, even one in which they may appear in great numbers in some years.

A sharp watch was kept in all suitable forest country for nests of the Long-tailed Tree Mouse as outlined elsewhere in this paper, but very few nests were found, and of those discovered in accessible situations the great majority appeared deserted.

LIST OF LAND BIRDS NOTED AT REQUA, DEL NORTE
COUNTY, CALIFORNIA, APRIL 21 TO JUNE 1, 1921

1. **California Quail** (*Lophortyx californica californica*).—Resident but not abundant.
2. **Band-tailed Pigeon** (*Columba fasciata fasciata*).—Several flocks seen. Breeding.
3. **Western Mourning Dove** (*Zenaida macroura marginella*).—Rare. One pair seen May 29.
4. **Turkey Vulture** (*Cathartes aura septentrionalis*).—Abundant. Feeding on dead eels on river bank.
5. **Sharp-shinned Hawk** (*Accipiter velox*).—Several seen.
6. **Western Red-tailed Hawk** (*Buteo borealis calurus*).—Resident.
7. **Duck Hawk** (*Falco peregrinus anatum*).—One Seen May 1.
8. **Northern Pigeon Hawk** (*Falco columbarius columbarius*).—One seen at close range independently by J. Mailliard and C. Littlejohn May 14.
9. **American Sparrow Hawk** (*Falco sparverius sparverius*).—Breeding. Probably resident. Not abundant.
10. **American Osprey** (*Pandion haliaëtus carolinensis*).—One pair seen building nest May 18.
11. **Dusky Horned Owl** (*Bubo virginianus saturatus*).—Resident.
12. **Western Belted Kingfisher** (*Ceryle alcyon caurina*).—Quite common in spring at least.
13. **Harris Woodpecker** (*Dryobates villosus harrisi*).—Resident. Not abundant.
14. **Gairdner Woodpecker** (*Dryobates pubescens gairdneri*).—Resident. Not abundant.
15. **Lewis Woodpecker** (*Asyndesmus lewisi*).—One seen May 13.
16. **Northwestern Flicker** (*Colaptes cafer saturatio*).—Resident. Not numerous, at least in spring.
17. **Vaux Swift** (*Chætura vauxi*).—Noted on April 25 and often seen later.
18. **Allen Hummingbird** (*Selasphorus alleni*).—Summer visitant. Numerous during May.

19. **Arkansas Kingbird** (*Tyrannus verticalis*).—Apparently only passing through. Two seen May 7, both of which were secured (C. A. S. Nos. 23910, male, and 23911, female), and one noted on June 2; all three on flat across river.
20. **Olive-sided Flycatcher** (*Nuttallornis borealis*).—Summer visitant. First noted May 8.
21. **Western Wood Pewee** (*Myiochanes richardsoni richardsoni*).—Summer visitant. First noted May 28, but this species may have arrived during the absence of the field party from May 19 to 28.
22. **Western Flycatcher** (*Empidonax difficilis difficilis*).—Two heard April 23. One secured May 2. Rare summer visitant.
23. **Traill Flycatcher** (*Empidonax trailli trailli*).—One seen April 23, after which none was noted until May 28, 29, and 30, when many were seen. None found after latter date. May have arrived during party's absence May 19-28.
24. **Blue-fronted (?) Jay** (*Cyanocitta stelleri* subsp.).—Resident. Numerous. Intermediate between *Cyanocitta stelleri frontalis* and *Cyanocitta stelleri stelleri*.
25. **Oregon Jay** (*Perisoreus obscurus obscurus*).—Either very shy or very rare. Two seen April 30, one May 4, and one May 31.
26. **Western Raven** (*Corvus corax sinuatus*).—Several pair were from time to time in evidence.
27. **Northwestern Red-wing** (*Agelaius phœniceus caurinus*).—Several pair were seen on the flat on the opposite side of the river, and several specimens secured. It seemed as if this species should nest there, but the birds had all disappeared by May 12.
28. **Western Meadowlark** (*Sturnella neglecta*).—A few were seen on the flat across the river.
29. **California Brewer Blackbird** (*Euphagus cyanocephalus minusculus*).—A few pair were nesting near farm houses.
30. **California Purple Finch** (*Carpodacus purpureus californicus*).—First seen April 24. Quite abundant later.
31. **California Linnnet** (*Carpodacus mexicanus frontalis*).—First seen April 27. Abundant two weeks later.
32. **American Crossbill** (*Loxia curvirostra minor*).—Several flocks noted at various times in tree tops among the tall timber and some specimens taken.

33. **Willow Goldfinch** (*Astragalinus tristis salicamans*).—First noted April 28, abundant later.
34. **Green-backed Goldfinch** (*Astragalinus psaltria hesperophilus*).—Rarely seen. First noted April 26.
35. **Pine Siskin** (*Spinus pinus pinus*).—First one seen April 24. Abundant later.
36. **English Sparrow** (*Passer domesticus*).—A few of these birds were busy around the village.
37. **Savannah Sparrow** (*Passerculus sandwichensis savanna*).—Two birds of this form were taken in the open pasture on the hillside back of the village on May 4 and 5, respectively. None seen later.
38. **Western Savannah Sparrow** (*Passerculus sandwichensis alaudinus*).—One taken.
39. **Dwarf Savannah Sparrow** (*Passerculus sandwichensis brooksi*).—A few pairs breeding in flat across the river. Several (males) secured for identification.
40. **Nuttall Sparrow** (*Zonotrichia leucophrys nuttalli*).—Abundant in partially open country.
41. **Golden-crowned Sparrow** (*Zonotrichia coronata*).—Abundant during migration. Last seen May 10.
42. **Western Chipping Sparrow** (*Spizella passerina arizonæ*).—One reported by Littlejohn April 21 as having been seen in tree close by Agency cottage. Only one noted.
43. **Oregon Junco** (*Junco oreganus oreganus*).—Several seen, two secured. Last seen May 7.
44. **Mendocino Song Sparrow** (*Melospiza melodia cleonensis*).—Abundant in suitable places. Breeding.
45. **Forbush Sparrow** (*Melospiza lincolni gracilis*).—Several seen in migration April 22. Two secured.
46. **Pacific Black-headed Grosbeak** (*Zamelodia melanocephala capitalis*).—First noted on May 4. Some seen later but never abundant.
47. **Western Tanager** (*Piranga ludoviciana*).—Rarely seen. First seen May 3.
48. **Cliff Swallow** (*Petrochelidon lunifrons lunifrons*).—A number appeared in the town on May 7, and quite a colony nested on an unused cannery building.
49. **Barn Swallow** (*Hirundo erythrogaster*).—Several seen April 23. Breeding.

50. **Tree Swallow** (*Iridoprocne bicolor*).—Many seen April 23 and later. Nesting in trunks of dead trees in bottom lands.
51. **Northern Violet-green Swallow** (*Tachycineta thalassina lepida*).—Seen April 26 and later.
52. **Western Warbling Vireo** (*Vireosylva gilva swainsoni*).—Two seen April 22, and a few seen later from time to time.
53. **Hutton Vireo** (*Vireo huttoni huttoni*).—Seen April 23. Scarce.
54. **Lutescent Warbler** (*Vermivora celata lutescens*).—Common summer visitant. Already present when field party arrived.
55. **California Yellow Warbler** (*Dendroica æstiva brewsteri*).—A few seen May 1 by Littlejohn.
56. **Alaska Myrtle Warbler** (*Dendroica coronata hooveri*).—Noted April 22 and a little later, when a few were seen during migration.
57. **Black-throated Gray Warbler** (*Dendroica nigrescens*).—One taken May 18. None other seen.
58. **Townsend Warbler** (*Dendroica townsendi*).—A number seen in tree by Agency cottage during rainstorm on May 1. Evidently migrating, as not seen later.
59. **Western Yellowthroat** (*Geothlypis trichas occidentalis*).—One shot by Mailliard on May 4 but not retrieved. A couple of others seen but not secured, presumably of this subspecies.
60. **Long-tailed Chat** (*Icteria virens longicauda*).—Arrived during absence of field party between May 19 and 28. Several noted. Apparently breeds.
61. **Golden Pileolated Warbler** (*Wilsonia pusilla chryseola*).—First seen April 22, but probably arrived at Requa before this date. Numerous later.
62. **Western House Wren** (*Troglodytes ædon parkmani*).—One secured May 18. None other seen.
63. **Western Winter Wren** (*Nannus hiemalis pacificus*).—Not seen until May 30, when one or two were seen or heard.
64. **Tule Wren** (*Telmatodytes palustris paludicola*).—A few in marshy places along streams. One taken May 11.
65. **Chestnut-backed Chickadee** (*Penthestes rufescens rufescens*).—Common resident.
66. **Northern Wren-tit** (*Chamæa fasciata phæa*).—Resident but not numerous.

67. **Russet-backed Thrush** (*Hylocichla ustulata ustulata*).—First noted May 4. Abundant later. Nesting about village.
68. **Alaska Hermit Thrush** (*Hylocichla guttata guttata*).—Hermit thrushes were heard from time to time up to the middle of May. One referable to this form was taken May 6.
69. **Dward Hermit Thrush** (*Hylocichla guttata nana*).—One specimen referred to this form taken May 2.
70. **Western Robin** (*Planesticus migratorius propinquus*).—Abundant. Nesting.
71. **Varied Thrush** (*Ixoreus naevius naevius*).—Rare. Nesting in dark places in forest.